Mr. Kevin Hogan Plainfield Juvenile Correctional Facility 501 West Main Street Plainfield, IN 46168

Re: 063-11503

First Significant Permit Modification to Part 70 No.: T 063-7558-00002

#### Dear Mr. Hogan:

Plainfield Juvenile Correctional Facility was issued a permit on December 31, 1998 for boilers. A letter requesting changes to this permit was received on October 22, 1999. Pursuant to the provisions of 326 IAC 2-7-12 a significant permit modification to this permit is hereby approved. Construction has been approved under 063-11483 and this significant permit modification will allow the operation of the boilers. The Part 70 Operating permit is being modified through a Part 70 Significant Permit Modification pursuant to 326 IAC 2-7-12(b)(1)(E) because the new boilers are subject to a New Source Performance Standard (NSPS).

The modification consists of changes shown below (deletions are shown as strikeouts, additions are shown in bold):

#### **Permit Modifications**

Modifications to the Part 70 permit are shown as follows (deletions are shown as strikeouts, additions are shown in bold):

A.2 Emission Units and Pollution Control Equipment Summary [326 IAC 2-7-4(c)(3)] [326 IAC 2-7-5(15)]

This stationary source consists of the following emission units and pollution control devices:

- (a) three (3) traveling grate, bituminous coal-fired boilers, referred to as B-1, B-2, and B-4, each constructed in 1970, with maximum heat input capacities of 100, 100, and 67 million Btu per hour respectively, with each boiler controlled by a cyclone and emissions exhausting to three separate stacks referred to as S-B-1, S-B-2, and S-B-4;
  - two (2) natural gas-fired boilers, identified as B-6 and B-7, each with a maximum heat input capacity of 48.542 million British thermal units per hour, with emissions uncontrolled and exhausting to stacks S-B-6 and S-B-7 respectively;
- (b) one (1) natural gas-fired boiler using #2 fuel oil as backup fuel, referred to as B-5, constructed in 1970, with a maximum heat input capacity of 33 million Btu per hour, with emissions uncontrolled and exhausting to stack S-B-5; and
- (c) one (1) natural gas-fired boiler using #2 fuel oil as backup fuel, referred to as B-3, constructed in 1992, with a maximum heat input capacity of 39 million Btu per hour, with emissions uncontrolled and exhausting to stack S-B-3.

#### **SECTION D.1**

#### **FACILITY OPERATION CONDITIONS**

Facility Description [326 IAC 2-7-5(15)]

three (3) traveling grate, bituminous coal-fired boilers, referred to as B-1, B-2, and B-4, each constructed in 1970, with maximum heat input capacities of 100, 100, and 67 million Btu per hour respectively, with each boiler controlled by a cyclone and emissions exhausting to three separate stacks referred to as S-B-1, S-B-2, and S-B-4;

two (2) natural gas-fired boilers, identified as B-6 and B-7, each with a maximum heat input capacity of 48.542 million British thermal units per hour, with emissions uncontrolled and exhausting to stacks S-B-6 and S-B-7 respectively;

#### Emission Limitations and Standards [326 IAC 2-7-5(1)]

#### D 1 1 Particulate Matter Limitation (PM) [326 IAC 6-2-2]

Pursuant to <del>326 IAC 6-2-2</del> **326 IAC 6-2-4** (Particulate emission limitations for sources of indirect heating), the following conditions shall apply:

(a) The particulate emissions from boilers B-1, B-2, and B-4 B-6 and B-7 shall in no case exceed 0.29 pound of particulate matter per million British thermal units of heat input. This limitation is based on the following equation:

Pt = 
$$\frac{0.87}{Q^{0.16}}$$
  $\frac{1.09}{Q^{0.26}}$ 

where Pt = Pounds of particulate matter emitted per million Btu heat input (lb/MMBtu).

- Q = Total source maximum operating capacity rating in million Btu per hour of heat input. The maximum operating capacity rating is defined as the maximum capacity at which the facility is operated or the nameplate capacity, whichever is specified in the facility's operation permit application, except when some lower capacity is contained in the facility's operation permit; in which case, the capacity specified in the operation permit shall be used.
- (b) The steam production from each of the boilers B-1, B-2, and B-4 shall not exceed 35,000 pounds per hour. This limit is necessary in order to comply with 326 IAC 6-2-2.

#### D.1.2 Coal-fired Boilers

The three coal-fired boilers B-1, B-2, and B-4 shall be removed from operation upon startup of the new natural gas fired boilers.

#### D.1.2 Sulfur Dioxide (SO<sub>2</sub>) [326 IAC 7-1.1-1]

Pursuant to 326 IAC 7-1.1 (SO<sub>2</sub> Emissions Limitations) the SO<sub>2</sub> emissions from the boilers B 1, B-2, and B-4 shall not exceed 6.0 pounds per MMBtu of heat input. In order to comply with this limit, the sulfur content of the coal shall not exceed 4.1 weight percent.

#### D.1.3 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for this facility and its control device.

#### **Compliance Determination Requirements**

#### D.1.4 3 Testing Requirements [326 IAC 2-7-6(1),(6)]

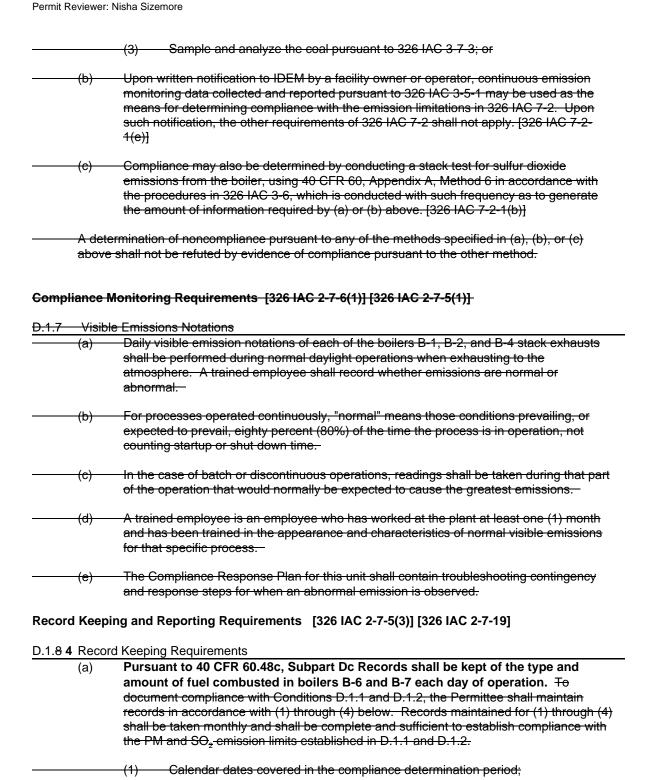
Within 180 days after issuance of this permit, the Permittee shall perform PM testing for boilers B-1, B-2, and B-4 using methods as approved by the Commissioner, in order to demonstrate compliance with condition D.1.1. These tests shall be repeated at least once every five (5) years from the date of this valid compliance demonstration. In addition to these requirements, IDEM may require compliance testing when necessary to determine if the facility is in compliance.

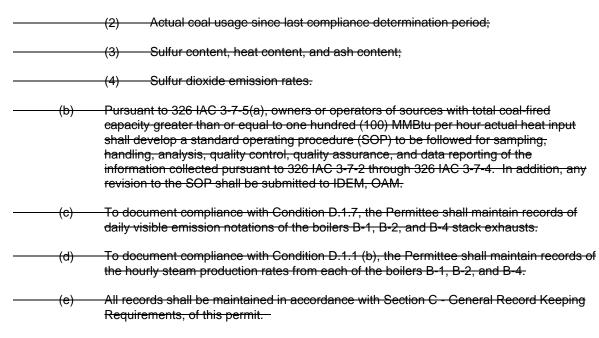
The Permittee is not required to test these facilities by this permit. However, IDEM may require compliance testing at any specific time when necessary to determine if the facility is in compliance. If testing is required by IDEM, compliance with the PM limit specified in Condition D.1.1 shall be determined by a performance test conducted in accordance with Section C - Performance Testing.

#### D.1.5 Cyclones [326 IAC 2-7-6(1)]

The three (3) cyclones shall be in operation at all times that the boilers B-1, B-2, and B-4 are in operation, in order to comply with the limit in condition D.1.1.

### Sulfur Dioxide Emissions and Sulfur Content [326 IAC 2-7-5(3)(A)] [326 IAC 2-7-6] Pursuant to 326 IAC 7-2, the Permittee shall demonstrate that the sulfur dioxide emissions do not exceed six (6.0) pounds per MMBtu. Compliance shall be determined utilizing one of the following options: Coal sampling and analysis shall be performed using one of the following procedures: Minimum Coal Sampling Requirements and Analysis Methods [326 IAC 3-7-2(b)(3)]: The coal sample acquisition point shall be at a location where representative samples of the total coal flow to be combusted by the facility or facilities may be obtained. A single as-bunkered or as-burned sampling station may be used to represent the coal to be combusted by multiple facilities using the same stockpile feed system; Coal shall be sampled at least three (3) times per day and at least one (1) time per eight (8) hour period unless no coal is bunkered during the preceding eight (8) hour period; Minimum sample size shall be five hundred (500) grams; (D) Samples shall be composited and analyzed at the end of each calendar month: Preparation of the coal sample, heat content analysis, and sulfur content <del>(E)</del> analysis shall be determined pursuant to 326 IAC 3-7-2(c), (d), (e); or Sample and analyze the coal pursuant to 326 IAC 3-7-2(a);





#### D.1.95 Reporting Requirements

A quarterly summary of the information to document compliance with Condition D.1.2 **The natural gas fired boiler certification** shall be submitted to the address listed in Section C - General Reporting Requirements, using the reporting forms located at the end of this permit, or their equivalent, within thirty (30) days after the end of the quarter being reported.

# INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT OFFICE OF AIR MANAGEMENT COMPLIANCE DATA SECTION

### **Part 70 Quarterly Report**

Source Nam Source Addr Mailing Addr Part 70 Pern Facility: Parameter: Limits: Mor	ress: 501 Weress:	st Main Street, Pla 558-00002 -1 ontent and heat cons issions of 6.0 lb/M	ninfield, Indiana 4614 ninfield, Indiana 4614 nintent of coal used, MBTU of heat input	68 amount of coal used	<del>d, and SO</del> ₂
Month	Sulfur Content (%)	Heat Content	Fuel usage (gal/month)	<del>SO</del> ₂ <del>Emissions</del> <del>(lb/MMBTU)</del>	
		Deviation/s occur	urred in this month. red in this month. een reported on:		<b>I</b>
	Submitte	ed by:			<u> </u>
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	Signatui Date:	re:			
	Phone:				

# INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT OFFICE OF AIR MANAGEMENT COMPLIANCE DATA SECTION

Source Name Source Addre Mailing Addre Part 70 Perm Facility: Parameter: Limits:	ess: 501 We: ess: 501 We: hit No.: T063-75 boiler B- Sulfur co emission	d Juvenile Correct st Main Street, Pla st Main Street, Pla 558-00002 -2 ontent and heat cons issions of 6.0 lb/M	ninfield, Indiana 4616 ninfield, Indiana 4616 ninfield and Indiana 4616 ninfield and Indiana 4616 ninfield and Indiana 4616 ninfield and Indiana 4616	<del>68</del>
Month	Sulfur Content (%)	Heat Content	<del>Fuel usage</del> <del>(gal/month)</del>	<del>SO</del> ₂ <del>Emissions</del> <del>(lb/MMBTU)</del>
		Deviation/s occur	urred in this month. red in this month. een reported on:	
_	Submitte			
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	Signatu			
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	Date:			

Phone:

# INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT OFFICE OF AIR MANAGEMENT COMPLIANCE DATA SECTION

### **Part 70 Quarterly Report**

Source Names Source Address  Mailing Address  Part 70 Permeracility:  Parameter:  Limits:  Mon	ess: 501 We: ess: 501 We: nit No.: T063-75 boiler B- Sulfur co emission	st Main Street, Pla 558-00002 -4 ontent and heat cons issions of 6.0 lb/M	ninfield, Indiana 4610 ninfield, Indiana 4610 nintent of coal used, MBTU of heat input	<del>58</del> amount of coal used,	<del>-and S(</del>
Month	Sulfur Content	Heat Content	<del>Fuel usage</del> <del>(gal/month)</del>	<del>SO</del> ₂ <del>Emissions</del> <del>(lb/MMBTU)</del>	
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Page 9 of 10 First Significant Permit Modification 063-11503-00002

# INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT OFFICE OF AIR MANAGEMENT COMPLIANCE DATA SECTION

## PART 70 OPERATING PERMIT NATURAL GAS FIRED BOILER CERTIFICATION

Source Name: Plainfield Juvenile Correctional Facility

Source Address: 501 West Main Street, Plainfield, Indiana 46168
Mailing Address: 501 West Main Street, Plainfield, Indiana 46168

Part 70 Permit No.: T063-7558-00002

This certification shall be included when submitting monitoring, testing reports/results or other documents as required by this permit.				
Report period Beginning: Ending:				
Boiler Affected	Alternate Fuel	<u>Days burning alternate fuel</u> <u>From</u> <u>To</u>		
I certify that, based on in information in the documer		med after reasonable inquiry, the statements an complete.		
Signature:				
Printed Name:				
Title/Position:				
Date:				

All other conditions of the permit shall remain unchanged and in effect. Please attach a copy of this modification and the following revised permit pages to the front of the original permit.

This decision is subject to the Indiana Administrative Orders and Procedures Act - IC 4-21.5-3-5. If you have any questions on this matter, please contact Nisha Sizemore, OAM, 100 North Senate Avenue, P.O. Box 6015, Indianapolis, Indiana, 46206-6015, or call at (800) 451-6027, press 0 and ask for Nisha Sizemore or extension 2-8356, or dial (317) 232-8356.

Sincerely,

Paul Dubenetzky, Chief Permits Branch Office of Air Management

#### Attachments

nls

cc: File - Hendricks County

U.S. EPA, Region V

Hendricks County Health Department

Air Compliance Section Inspector - Marc Goldman

Compliance Data Section - Karen Nowak Administrative and Development - Janet Mobley Technical Support and Modeling - Michele Boner

# PART 70 OPERATING PERMIT and ENHANCED NEW SOURCE REVIEW OFFICE OF AIR MANAGEMENT

# Plainfield Juvenile Correctional Facility 501 West Main Street Plainfield, Indiana 46168

(herein known as the Permittee) is hereby authorized to operate subject to the conditions contained herein, the source described in Section A (Source Summary) of this permit.

This permit is issued in accordance with 326 IAC 2 and 40 CFR Part 70 Appendix A and contains the conditions and provisions specified in 326 IAC 2-7 as required by 42 U.S.C. 7401, et. seq. (Clean Air Act as amended by the 1990 Clean Air Act Amendments), 40 CFR Part 70.6, IC 13-15 and IC 13-17.

Operation Permit No.: T063-7558-00002	
Issued by: Janet G. McCabe, Assistant Commissioner Office of Air Management	Issuance Date: December 31, 1999
Significant Permit Modification: 063-11503-00002	Pages Affected: 3, 5, 30-33, and 46
Issued by: Paul Dubenetzky, Chief Office of Air Management	Issuance Date:

Plainfield Juvenile Correctional Facility Plainfield, Indiana

First Significant Permit Modification 063-11503-00002 Modified by: Nisha Sizemore Op.

002 Page 3 of 52 Op. No. T063-7558-00002

Permit Reviewer: Nisha Sizemore

#### C.10 Performance Testing [326 IAC 3-6]

#### Compliance Monitoring Requirements [326 IAC 2-7-5(1)] [326 IAC 2-7-6(1)]

- C.11 Compliance Schedule [326 IAC 2-7-6(3)]
- C.12 Compliance Monitoring [326 IAC 2-7-5(3)] [326 IAC 2-7-6(1)]
- C.13 Monitoring Methods [326 IAC 3]

#### Corrective Actions and Response Steps [326 IAC 2-7-5] [326 IAC 2-7-6]

- C.14 Emergency Reduction Plans [326 IAC 1-5-2] [326 IAC 1-5-3]
- C.15 Risk Management Plan [326 IAC 2-7-5(12)] [40 CFR 68.215]
- C.16 Compliance Monitoring Plan Failure to Take Response Steps [326 IAC 2-7-5]
- C.17 Actions Related to Noncompliance Demonstrated by a Stack Test [326 IAC 2-7-5]

#### Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

- C.18 Emission Statement [326 IAC 2-7-5(3)(C)(iii)] [326 IAC 2-7-5(7)] [326 IAC 2-7-19(c)]
- C.19 Monitoring Data Availability [326 IAC 2-7-6(1)] [326 IAC 2-7-5(3)]
- C.20 General Record Keeping Requirements [326 IAC 2-7-5(3)]
- C.21 General Reporting Requirements [326 IAC 2-7-5(3)(C)]

#### **Stratospheric Ozone Protection**

C.22 Compliance with 40 CFR 82 and 326 IAC 22-1

#### D.1 FACILITY OPERATION CONDITIONS - Boilers B-6 and B-7

#### Emission Limitations and Standards [326 IAC 2-7-5(1)]

- D.1.1 Particulate Matter Limitation (PM) [326 IAC 6-2-4]
- D.1.2 Coal-fired Boilers [326 IAC 2]

#### **Compliance Determination Requirements**

D.1.3 Testing Requirements [326 IAC 2-7-6(1),(6)]

#### Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

- D.1.4 Record Keeping Requirements
- D.1.5 Reporting Requirements

#### D.2 FACILITY OPERATION CONDITIONS - Boiler B-5

#### Emission Limitations and Standards [326 IAC 2-7-5(1)]

- D.2.1 Particulate Matter Limitation (PM) [326 IAC 6-2-2]
- D.2.2 Sulfur Dioxide (SO<sub>2</sub>) [326 IAC 7-1.1-1]
- D.2.3 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

#### **Compliance Determination Requirements**

- D.2.4 Testing Requirements [326 IAC 2-7-6(1),(6)]
- D.2.5 Sulfur Dioxide Emissions and Sulfur Content

Plainfield Juvenile Correctional Facility

Plainfield, Indiana

Permit Reviewer: Nisha Sizemore

First Significant Permit Modification 063-11503-00002 Page 5 of 52 Modified by: Nisha Sizemore Op. No. T063-7558-00002

#### **SECTION A**

#### **SOURCE SUMMARY**

This permit is based on information requested by the Indiana Department of Environmental Management (IDEM), Office of Air Management (OAM). The information describing the source contained in conditions A.1 through A.3 is descriptive information and does not constitute enforceable conditions. However, the Permittee should be aware that a physical change or a change in the method of operation that may render this descriptive information obsolete or inaccurate may trigger requirements for the Permittee to obtain additional permits or seek modification of this permit pursuant to 326 IAC 2, or change other applicable requirements presented in the permit application.

#### A.1 General Information [326 IAC 2-7-4(c)] [326 IAC 2-7-5(15)]

The Permittee owns and operates a correctional facility.

Responsible Official: Mr. Gary Long

Source Address: 501 West Main Street, Plainfield, Indiana 46168
Mailing Address: 501 West Main Street, Plainfield, Indiana 46168

SIC Code: 9223 County Location: Hendricks

County Status: Attainment for all criteria pollutants

Source Status: Part 70 Permit Program

Minor Source, under PSD Rules.

## A.2 Emission Units and Pollution Control Equipment Summary [326 IAC 2-7-4(c)(3)] [326 IAC 2-7-5(15)]

This stationary source consists of the following emission units and pollution control devices:

- (a) two (2) natural gas-fired boilers, identified as B-6 and B-7, each with a maximum heat input capacity of 48.542 million British thermal units per hour, with emissions uncontrolled and exhausting to stacks S-B-6 and S-B-7 respectively;
- (b) one (1) natural gas-fired boiler using #2 fuel oil as backup fuel, referred to as B-5, constructed in 1970, with a maximum heat input capacity of 33 million Btu per hour, with emissions uncontrolled and exhausting to stack S-B-5; and
- (c) one (1) natural gas-fired boiler using #2 fuel oil as backup fuel, referred to as B-3, constructed in 1992, with a maximum heat input capacity of 39 million Btu per hour, with emissions uncontrolled and exhausting to stack S-B-3.

## A.3 Specifically Regulated Insignificant Activities [326 IAC 2-7-1(21)] [326 IAC 2-7-4(c)] [326 IAC 2-7-5(15)]

This stationary source also includes the following insignificant activities which are specifically regulated, as defined in 326 IAC 2-7-1(21):

- (a) degreasing operations that do not exceed 145 gallons per 12 months, except if subject to 326 IAC 20-6, including two (2) parts washers constructed in 1992;
- (b) The following equipment related to manufacturing activities not resulting in the emission of HAPs: brazing equipment, cutting torches, soldering equipment, welding equipment;
- (c) covered conveyors for coal or coke conveying of less than or equal to 360 tons per day;

First Significant Permit Modification 063-11503-00002 Page 30 of 52 Modified by: Nisha Sizemore Op. No. T063-7558-00002

### Permit Reviewer: Nisha Sizemore

**SECTION D.1** 

#### **FACILITY OPERATION CONDITIONS**

Facility Description [326 IAC 2-7-5(15)]

two (2) natural gas-fired boilers, identified as B-6 and B-7, each with a maximum heat input capacity of 48.542 million British thermal units per hour, with emissions uncontrolled and exhausting to stacks S-B-6 and S-B-7 respectively;

#### Emission Limitations and Standards [326 IAC 2-7-5(1)]

#### D.1.1 Particulate Matter Limitation (PM) [326 IAC 6-2-2]

Pursuant to 326 IAC 6-2-4 (Particulate emission limitations for sources of indirect heating), the particulate emissions from boilers B-6 and B-7 shall in no case exceed 0.29 pound of particulate matter per million British thermal units of heat input. This limitation is based on the following equation:

$$Pt = \frac{1.09}{Q^{0.26}}$$

where Pt = Pounds of particulate matter emitted per million Btu heat input (lb/MMBtu).

Q = Total source maximum operating capacity rating in million Btu per hour of heat input. The maximum operating capacity rating is defined as the maximum capacity at which the facility is operated or the nameplate capacity, whichever is specified in the facility's operation permit application, except when some lower capacity is contained in the facility's operation permit; in which case, the capacity specified in the operation permit shall be used.

#### D.1.2 Coal-fired boilers [326 IAC 2]

The three coal-fired boilers B-1, B-2, and B-4 shall be removed from operation upon startup of the new natural gas-fired boilers. The new boilers shall use natural gas fuel only.

#### **Compliance Determination Requirements**

#### D.1.3 Testing Requirements [326 IAC 2-7-6(1),(6)]

The Permittee is not required to test these facilities by this permit. However, IDEM may require compliance testing at any specific time when necessary to determine if the facility is in compliance. If testing is required by IDEM, compliance with the PM limit specified in Condition D.1.1 shall be determined by a performance test conducted in accordance with Section C - Performance Testing.

#### Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

#### D.1.4 Record Keeping Requirements

Pursuant to 40 CFR 60.48c, Subpart Dc, records shall be kept of the type and amount of fuel combusted by boilers B-6 and B-7 each day of operation.

#### D.1.5 Reporting Requirements

The natural gas fired boiler certification shall be submitted to the address listed in Section C - General Reporting Requirements, using the reporting forms located at the end of this permit, or their equivalent, within thirty (30) days after the end of the quarter being reported.

First Significant Permit Modification 063-11503-00002 Page 31 of 52 Modified by: Nisha Sizemore Op. No. T063-7558-00002

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First Significant Permit Modification 063-11503-00002 Page 32 of 52 Modified by: Nisha Sizemore Op. No. T063-7558-00002

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First Significant Permit Modification 063-11503-00002 Page 33 of 52 Modified by: Nisha Sizemore Op. No. T063-7558-00002

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First Significant Permit Modification 063-11503-00002 Page 46 of 52 Modified by: Nisha Sizemore Op. No. T063-7558-00002

# INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT OFFICE OF AIR MANAGEMENT COMPLIANCE DATA SECTION

## PART 70 OPERATING PERMIT NATURAL GAS FIRED BOILER CERTIFICATION

Plainfield Juvenile Correctional Facility Source Name: Source Address: 501 West Main Street, Plainfield, Indiana 46168 Mailing Address: 501 West Main Street, Plainfield, Indiana 46168 Part 70 Permit No.: T063-7558-00002 This certification shall be included when submitting monitoring, testing reports/results or other documents as required by this permit. Report period Beginning: Ending: \_ **Boiler Affected** Alternate Fuel Days burning alternate fuel From To I certify that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete. Signature: Printed Name: Title/Position: Date: